traverse the rejection of record.

Before discussing in detail the rejection of claims over the art of record, it is believed that a brief recapitulation of the subject matter of Applicants' invention would be useful. Applicants' invention is directed to a novel electrically trimmable polysilicon resistor. One of the unique features of Applicants' invention is that the trimming occurs by use of both the first and second order temperature coefficients of the resistor and wherein the first and second order temperature coefficients have opposite signs. This allows for a greater fine tuning of the resistor than would be possible in prior art devices. Furthermore, one of the unique characteristics of Applicants' invention is that the doping concentration of the resistor is less than 1×10^{20} atoms/cm^{-3}.

For example, the *Amemiya et al.* reference uses a concentration greater the 1×10^{20} atoms/cm^{-3}. Furthermore, the *Amemiya et al.* reference does not use the second order temperature coefficient at all, let alone the concept of using a second order temperature coefficient, TC2, which has a sign opposite that of the first order temperature coefficient TC1. Accordingly, it cannot be said that the *Amemiya et al.* reference either teaches or suggests Applicants' invention as currently claimed.

In view of the foregoing, Applicants' respectfully request the thorough reconsideration of this application and earnestly solicit an early Notice of Allowance.

Respectfully submitted,

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1.(amended) A resistor having a resistance that can be adjusted by current being passed there through and which is formed as part of a semiconductor device comprising:

a polycrystalline silicon resistor formed of and on a layer, wherein said polysilicon resistor is formed using a doping wherein said doping has a concentration of from ~$6x10^{19}$ cm^{-3} to ~[3.75] 1 x10^{20} cm^{-3} and wherein said polycrystalline silicon resistor has at least a first and second order temperature coefficient, wherein the sign of said first and second order temperature coefficients are opposite each other .

2. (amended) A resistor having a resistance that can be adjusted by current being passed there through and which is formed as part of a semiconductor device comprising:

a polycrystalline silicon resistor formed of on a layer, wherein said polysilicon resistor is formed using a doping wherein said doping has a concentration of less than ~$3.75x10^{20}$ cm^{-3} and wherein said polycrystalline silicon resistor has at least a first and second order temperature coefficient, wherein the sign of said first and second order temperature coefficients are opposite each other.

11.(amended) A resistor having a resistance that can be adjusted by current being passed there through and which is formed as part of a semiconductor device comprising:

a polycrystalline silicon resistor formed of on a layer, wherein said polysilicon resistor is formed using a doping wherein said doping has a concentration of greater than ~$6x10^{19}$ cm^{-3} and wherein said polycrystalline silicon resistor has at least a first and second order temperature coefficient, wherein the sign of said first and second order temperature coefficients are opposite each other.

12. (amended) A resistor having a resistance that can be adjusted by current being passed there through and which is formed as part of a semiconductor device comprising:

a polycrystalline silicon resistor formed of on a layer, wherein said polysilicon resistor is formed using a late implant doping technique and wherein said polycrystalline silicon resistor has at least a first and second order temperature coefficient, wherein the sign of said first and second order temperature coefficients are opposite each other.